



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,892	04/26/2006	Naotaka Tsunoda	279196US6PCT	1764
22850 7590 12/04/2009 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER ROBINSON, RYAN C				
ART UNIT 2614		PAPER NUMBER		
NOTIFICATION DATE 12/04/2009		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary

Application No.

10/560,892

Applicant(s)

TSUNODA, NAOTAKA

Examiner

RYAN C. ROBINSON

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2009.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-19 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 16 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/GG-106)
Paper No(s)/Mail Date 1/23/2006; 2/6/2006; 4/8/2009
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Shaw et al., U.S. Patent No. 3,112,005, published on 11/26/1963, (hereby Shaw).

3. As to claim 1, Shaw discloses a headphone apparatus, (Fig. 17), comprising a baffle portion (63) formed to surround a space except a front opening portion (12) of a driver unit (6), the baffle portion formed of an air-permeable porous material such that external sound is prevented from being trapped interior to the baffle portion, degrading sound quality. (The material is sound absorbing and porous, and therefore is inherently air permeable, and sound is prevented from being trapped by absorption from this material; Col. 13, lines 7-10).

4. As to claim 2, Shaw remains as applied above.

Shaw further discloses that the baffle portion (63) is approximately cone-shaped. (See Fig. 17).

5. As to claim 6, Shaw remains as applied above.

Shaw further discloses that the driver unit (6) is provided in a bridge portion (1) shaped like an arch forming a bridge to a rim (3) which forms a frame.

6. As to claim 7, Shaw remains as applied above.

Shaw further discloses that the cone shape of said baffle portion (63) is asymmetrical with respect to an axis of the cone. (See Fig. 17).

- 7. Claims 11, and 18-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Görike, U.S. Patent No. 4,338,489, published on 7/6/1982, (Hereby Gk).**

8. As to claim 11, Gk discloses a headphone apparatus (Fig. 16), comprising a back housing portion (74) formed to cover a back surface of a driver unit (67), the back housing portion (74) being formed of an air-permeable porous material (The material is completely perforated; Col. 7, line 65), such that external sound is prevented from being trapped interior to the back housing portion, degrading sound quality (Col. 7, lines 66-68).

9. As to claim 18, Gk remains as applied above.

Gk further discloses that the back housing portion (74) is an outermost surface of the headphone apparatus.

10. As to claim 19, Gk discloses a headphone apparatus (Fig. 6), comprising: a driver unit (67) configured to be a loudspeaker; and a back housing portion (74) formed to cover a back surface of the driver unit (67), the back housing portion being formed of an air-permeable porous material (The material is completely perforated; Col. 7, line 65), and the back housing portion (67) being an outermost surface of the headphone apparatus.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. **Claims 3-4, and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw et al., U.S. Patent No. 3,112,005, published on 11/26/1963, (hereby Shaw, note independent claim 11 is listed first before its dependent claims 3-4).**

13. As to claim 10, Shaw remains as applied above.

Shaw does not explicitly disclose that a microphone device is attached to the headphone apparatus. However, Shaw does teach that the headphones are to be used in communication equipment such as telephones and radios (Col. 1, lines 33-34). Examiner takes official notice that it would have been well known in the art to provide a microphone with a pair of headphones, in order to use the headphones with communication equipment. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of applicant's invention to provide a microphone attached to the headphone apparatus, to allow for two-way communication.

14. As to independent claim 11, Shaw discloses a headphone apparatus (Fig. 17), comprising a back housing portion (1, 11) formed to cover a back surface of a driver unit (6), wherein the back housing portion is formed of a porous (Col. 13, lines 3-4) material (60). It is noted that Shaw does not explicitly disclose that the porous material is an air-permeable porous material, although Shaw teaches that the material is sound permeable, and porous (Col. 13, lines 12-16). Examiner takes official notice that it was well known in the art that a sound-permeable, porous material would require that the material be air-permeable. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of applicant's invention, to provide an air-permeable material as the porous material, in order to allow the material to be sound-permeable.

15. As to claim 3, Shaw remains as applied above to claim 11.

Shaw further discloses an opening (Fig. 18a., element 72) in a back surface of said back housing portion (1).

16. As to claim 4, Shaw remains as applied above to claim 11.

Shaw further discloses that the air-permeable porous material comprises an unwoven fabric of chemical fiber (The fiber is a fiberglass wool; Col. 14, lines 59-60).

17. As to claim 12, Shaw remains as applied above.

Shaw further discloses that the driver unit (6) is provided in a bridge portion (1) shaped like an arch forming a bridge to a rim (3) which forms a frame.

18. As to claim 13, Shaw remains as applied above.

Shaw does not explicitly disclose that a microphone device is attached to the headphone apparatus. However, Shaw does teach that the headphones are to be used in communication equipment such as telephones and radios (Col. 1, lines 33-34). Examiner takes official notice that it would have been well known in the art to provide a microphone with a pair of headphones, in order to use the headphones with communication equipment. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of applicant's invention to provide a microphone attached to the headphone apparatus, to allow for two-way communication.

19. As to claim 14, Shaw remains as applied above to claim 1.

Shaw further discloses that the air-permeable porous material comprises an unweaved fabric of chemical fiber (The fiber is a fiberglass wool; Col. 14, lines 59-60).

20. Claims 5 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw et al., U.S. Patent No. 3,112,005, published on 11/26/1963, (hereby Shaw), in view of Bargo, U.S. Patent No. 7,311,957, filed on 9/13/2002, (hereby Bargo).

21. As to claim 5, Shaw remains as applied above.

Shaw does not explicitly disclose that the air-permeable porous material comprises a cellulose based material. However, Shaw does not limit the material to a specific composition, and suggests that any suitable porous material can be used with equal success (Col. 13, lines 64-69). Bargo teaches a sound absorbing, air permeable porous material, comprising a cellulose based material (Bargo: Col. 4, lines 47-49). Therefore, it would have been obvious to one of ordinary skill in the art to provide a cellulose based material for the air-permeable porous material to provide increased acoustical performance, and to lower costs (Bargo: Col. 2, lines 17-21).

22. As to claim 8, Shaw remains as applied above.

Shaw does not explicitly disclose that the unweaved fabric of chemical fiber is combined with a porous material through an air-permeable adhesive layer to stabilize a shape of the fabric. However, Shaw does not limit the material to a specific composition, and

suggests that any suitable porous material can be used with equal success (Col. 13, lines 64-69). Bargo teaches an unwoven fabric of chemical fiber (Fig. 3, element 10; Col. 4, lines 16-18) is combined with a porous material (20) (The porous material is a cloth; Col. 5, lines 63-64), through an adhesive layer to stabilize a shape of the fabric (Col. 6, lines 2-6). It is further noted that Bargo does not explicitly teach that the adhesive layer is air permeable. Examiner takes official notice that any adhesive layer used would be required to be air permeable, since the chemical fiber layer must absorb sound as well. Therefore, it would have been obvious to one of ordinary skill, at the time of applicant's invention to use an unwoven fabric of chemical fiber, combined with a porous material through an air-permeable adhesive layer to stabilize a shape of the fabric, as a sound absorbing material in the headphones of Shaw.

23. As to claim 9, Shaw and Bargo remain as applied above.

Bargo teaches a cellulose based material (Bargo: Col. 4, lines 47-49) combined with a porous material (20) (The porous material is a cloth; Col. 5, lines 63-64), through an adhesive layer to stabilize a shape of the fabric (Col. 6, lines 2-6). It is further noted that Bargo does not explicitly teach that the adhesive layer is air permeable. Examiner takes official notice that any adhesive layer used would be required to be air permeable, since the cellulose-based material layer must absorb sound as well. Therefore, it would have been obvious, at the time of applicant's invention to use a cellulose based material, combined with a porous material through an air-permeable adhesive layer to

stabilize a shape of the fabric, as a sound absorbing material in the headphones of Shaw.

24. As to claim 15, Shaw remains as applied above.

Shaw does not explicitly disclose that the air-permeable porous material comprises a cellulose based material. However, Shaw does not limit the material to a specific composition, and suggests that any suitable porous material can be used with equal success (Col. 13, lines 64-69). Bargo teaches a sound absorbing, air permeable porous material, comprising a cellulose based material (Bargo: Col. 4, lines 47-49). Therefore, it would have been obvious to one of ordinary skill in the art to provide a cellulose based material for the air-permeable porous material to provide increased acoustical performance, and to lower costs (Bargo: Col. 2, lines 17-21).

25. As to claim 16, Shaw remains as applied above.

Shaw does not explicitly disclose that the unwoven fabric of chemical fiber is combined with a porous material through an air-permeable adhesive layer to stabilize a shape of the fabric. However, Shaw does not limit the material to a specific composition, and suggests that any suitable porous material can be used with equal success (Col. 13, lines 64-69). Bargo teaches an unwoven fabric of chemical fiber (Fig. 3, element 10; Col. 4, lines 16-18) is combined with a porous material (20) (The porous material is a cloth; Col. 5, lines 63-64), through an adhesive layer to stabilize a shape of the fabric (Col. 6, lines 2-6). It is further noted that Bargo does not explicitly teach that the

adhesive layer is air permeable. Examiner takes official notice that any adhesive layer used would be required to be air permeable, since the chemical fiber layer must absorb sound as well. Therefore, it would have been obvious to one of ordinary skill, at the time of applicant's invention to use an unwoven fabric of chemical fiber, combined with a porous material through an air-permeable adhesive layer to stabilize a shape of the fabric, as a sound absorbing material in the headphones of Shaw.

Response to Arguments

26. Applicant's arguments filed on 8/6/2009 have been fully considered but they are not persuasive. As to the rejection of claims 1 and 11 with the Shaw reference, Applicant argues that Shaw does not teach an "air permeable porous material". Examiner respectfully disagrees. Shaw discloses a porous material that is sound absorbing (Col. 13, lines 7-10). Applicant submits that a resistance to air flow implies that the porous material is not air permeable. In fact, the very disclosure that a resistance to air flow exists, is evidence that the air permeability properties of the material are at least obvious, if not inherent. Even with resistance, it is implied that an air flow must exist, and therefore a permeability. Examiner points out that the property of resistance is not the same as insulation. Applicant also argues that the properties of sound absorbing and sound permeable are incompatible. Examiner respectfully disagrees. Examiner points out that a porous sound permeable substance can in fact be sound absorbent, since sound permeates *into* the material rather than through it.

Applicant further argues that the material (10) taught by Bargo is not air permeable. Examiner respectfully disagrees. Bargo teaches that the material is a sound absorbing, blended homogeneous matrix of fibers (Col. 3, lines 57-59), and therefore the property of air permeability is due to the space in between the matrix of fibers. Finally, Applicant argues that since the material is put to a "flame test", any obviousness of having an air permeable adhesive would not be present, since this would allow flames and smoke to pass through the material. Examiner respectfully disagrees. Bargo is not directed to flameproofing an automobile, only creating a sound-proofing material able to withstand high temperatures.

Conclusion

The prior art made of record

- | | | |
|----|------------------|------------------|
| a. | US Patent Number | 3,112,005 |
| b. | US Patent Number | 7,311,957 |
| c. | US Patent Number | 4,338,489 |

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan C. Robinson whose telephone number is (571) 270-3956. The examiner can normally be reached on Monday through Friday from 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/R. C. R./
Examiner, Art Unit 2614
/CURTIS KUNTZ/
Supervisory Patent Examiner, Art Unit 2614